

## CLAIMS

1. A method for generating a smudge resistant image with an ink jet imaging device, the method comprising:

generating, using a first carriage in an image printing zone, an image on a print medium; and

depositing, using a second carriage in an image protecting zone, an overcoat solution and a fixer solution onto the image to form a substantially smudge resistant image.

2. The method as recited in claim 1, wherein the printing zone is separate from the image protecting zone.

3. The method as recited in claim 1:

wherein generating the image is performed by at least one first pen positioned on the first carriage; and

wherein depositing the overcoat and fixer solution is performed by at least one second pen positioned on the second carriage.

4. The method as recited in claim 1 wherein the overcoat solution in combination with the fixer solution is water insoluble.

5. The method as recited in claim 1, wherein the overcoat solution comprises an acrylate polymer.

6. The method as recited in claim 1, wherein the fixer solution comprises a low molecular weight polymer with a high charge density.

7. The method as recited in claim 1:

wherein generating the image further comprises depositing, with a first printhead of the imaging device, an ink colorant onto a print medium to form an image, the first printhead being independent of a second and a third printhead of the imaging device;

wherein depositing the overcoat solution further comprises depositing, by the second printhead, an overcoat solution over the image to protect the image from abrasions, the overcoat solution being water soluble;

wherein depositing the fixer solution further comprises depositing, by the third pen, a fixer to the overcoat solution, the fixer being water soluble; and

wherein the overcoat in combination with the fixer are water insoluble and hence substantially protect the image from smudges.

8. The method as recited in claim 1, wherein depositing the overcoat and the fixer solutions further comprises blooming the overcoat and the fixer solutions for a distance of one or more droplets beyond and edge of the image such that portions of the print medium that do not comprise the image are not coated with the overcoat and/or the fixer.

9. The method as recited in claim 1, further comprising at least partially drying the image before depositing the overcoat and the fixer solutions.

10. The method as recited in claim 3, wherein the at least one second pen has a drop volume greater than the drop volume of the at least one first pen.

11. The method as recited in claim 10, wherein the at least one second pen has a drop volume in the range of 4pl to 64pl.

12. An imaging device to generate a smudge resistant image, the device comprising:

a processor processing coupled to a memory comprising computer-executable instructions for executing computer-executable for:

generating, by a first carriage in a printing zone, an image on a print medium; and

depositing, by a second carriage in an image protecting zone, an overcoat solution and a fixer solution onto the image to form a substantially smudge resistant image.

13. An ink jet imaging device as recited in claim 12, wherein the imaging device is an ink jet imaging device.

14. An ink jet imaging device as recited in claim 12, wherein the image is generated by one or more first pens positioned on the first carriage, and wherein the overcoat and fixer solution are deposited by one or more second pens positioned on the second carriage.

15. An ink jet imaging device as recited in claim 12, wherein the overcoat solution in combination with the fixer solution are water insoluble.

16. An ink jet imaging device as recited in claim 12, wherein the overcoat solution comprises an acrylate polymer.

17. An ink jet imaging device as recited in claim 12, wherein the computer-executable instructions for depositing the overcoat and the fixer solutions further comprises instructions for blooming the overcoat and the fixer solutions for a distance of one or more droplets beyond an edge of the image.

18. An ink jet imaging device to generate a smudge resistant image, the ink-jet imaging device comprising processing means for:

forming, by a first carriage in a printing zone, an image on a print medium; and

depositing, by a second carriage in an image protecting zone, an overcoat solution and a fixer solution onto the image such that the image is substantially smudge resistant.

19. An ink jet imaging device as recited in claim 19, further comprising processing means for at least partially drying the image before depositing the overcoat and the fixer solutions.

20. An ink jet imaging device to generate a smudge resistant image, the ink-jet imaging device comprising:

a first and second carriage for depositing solution onto a print medium;

processing circuitry coupled to a memory and to the first and second carriage, the memory comprising computer-executable instructions for:

(a) generating, by the first carriage in a printing zone, an image, the image being formed on the print medium; and

(b) depositing, by the second carriage in an image protecting zone, an overcoat solution and a fixer solution onto the image to form the smudge resistant image; and

wherein generating the image and depositing the overcoat solution, the processor operates the first carriage independent with respect to synchronization from the second carriage.